CLAIMS

1. Method of processing seismic data acquired by means of a sensor having at least three geophone components, characterized in that estimators are determined which are combinations of these components making it possible to isolate the various data depending on whether they correspond to propagation with reflection or with conversion and in that, to determine a sensor reconstruction, the operators to be applied to the various components of the sensor are determined in such a way as to minimize the deviation between reference data and data obtained by applying the estimators to the sensor reconstruction, the operators thus determined being applied to the data acquired.

2. Method according to Claim 1, in which, the sensor furthermore including a hydrophone, the reference data for reconstructing a vertical geophone are derived from the data acquired by the hydrophone.

3. Method according to Claim 1, in which the reference data for reconstructing a vertical geophone without hydrophone or for reconstructing horizontal geophones are derived from the application of the estimators to one of the geophones of the sensor.

4. Method according to Claim 1, characterized in that the orientation in the horizontal plane of a geophone component is obtained by minimizing the estimator of the transverse reflection.

5. Method according to one of the preceding claims, characterized in that the estimators are determined as a function of a model of isotropic propagation or including the azimuthal anisotropy.

6. Method of processing seismic data acquired by means of a sensor having at least three geophone components, characterized in that estimators are determined which are combinations of these components making it possible to isolate the various data depending on whether they correspond to propagation with reflection or with conversion.